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LABOR

OFFICIALS SEEK WAYS TO RAISE LABOR PRODUCTIVITY

Positive Steps Described, Defects Decried

Minsk SOVETSKAYA BELORUSSIYA in Russian 10 Jun 83 p 2

[Article by P. Romma, chairman of Belorussian SSR State Committee for Labor: "Where and How to Look for Labor Reserves"]

[Text] The policy of the party of accelerating growth of labor productivity has predetermined the aim of the economy for intensive factors of development. Special urgency is lent these factors by a shortage of labor resources developing in the country, including in the republic. At the present time, 94 percent of the population of able-bodied age is engaged in the public economy or in study. During the present and subsequent five-year plans, an even greater exacerbation is anticipated in the republic of the problem of provision of manpower to newly built enterprises and developing production operations.

In this difficult demographic situation, the forefront is assumed by the problem of the rational utilization of manpower, boosting of the results of labor, growth of its productivity through acceleration of scientific-technical progress and improvement of organization of production and management.

For the successful solution of the indicated problems, a republic goal complex program "Raising of Labor Productivity on the Basis of Technical and Organizational Improvement of Production (the Trud Program) for 1981-1985."

The program provides for carrying out a complex of measures which will make it possible even in the 11th Five-Year Plan to increase labor productivity in industry by 24 percent, in construction by 18 percent and in agriculture by 40.4 percent. It is expected that this will provide up to 90 percent of the growth in industrial production and the entire growth of the volume of construction and installation work. In agriculture, an increase in production of output is planned which will be accompanied by a reduction in the number of workers.

How are these targets to be attained, where does one look for labor reserves and how are they to be put into operation? First of all, it should be noted that the targets of the Trud Program were carefully checked from the point of view of scientific-technical and organizational economic support. In the sectorial programs of ministries and departments, a complex of measures has been determined for the adoption of labor-saving equipment, improved organization of labor, production and management, reduction of losses of worktime and strengthening of discipline. Special attention is paid to production of nonstandard equipment and means of mechanization, whose volume of production over the 5-year period is increasing 1.45-fold solely in industry under the BSSR Council of Ministers. Mechanization of labor in auxiliary work must be carried out at an accelerated rate. Accomplishment of these measures will make it possible in 1985 to boost the relative share of the number of workers engaged in mechanized labor (without taking into account workers employed in adjustment and repair of equipment) to 67.5 percent.

On the whole, the Trud Program "operates" successfully. But the results of the operational activity of the first 2 years of the 5-year plan indicate that certain lapses are to be found in its fulfillment. Growth of labor productivity in industry in the 2 years of the 5-year period amounted to 4.5 instead of the planned 7.4 percent. This is to be explained primarily by deficiencies in planning where low growth rates of productivity were set for the beginning of the 5-year plan. Moreover, a number of ministries and departments were unable to carry out the introduction of planned technical, organizational and economic measures for raising efficiency of production. Plans were not fulfilled for the introduction of advanced technology, mechanization and automation of production processes. The level of mechanization of auxiliary workers remained particularly low, 57 percent of them being engaged in manual labor.

Obsolete methods of management also had their effect, as targets are fulfilled at any price. Another negative tendency is also to be found. To give the appearance of being well organized, certain executives, as was the case at a number of enterprises in the city of Grodno, formally organized flow lines without carrying out serious technical and technological measures and their economic support. But what are flow lines if 80 percent of the operations there are manual and do not provide for growth of labor productivity?

A significant rise in the capital-labor ratio is provided for the present 5-year period. But this important decision does not always achieve its aim. In recent years, a tendency has been displayed of growing immobilization of capital investment for fixed capital. In our view, this is to be explained by the fact that such funds were frequently investment in equipment of yesterday. Now we have to pay as such equipment does not decisively affect growth of labor productivity.

A rather clear-cut line is being drawn in the republic in regard to growth of capacities of existing enterprises through their modernization, replacement of obsolete equipment and introduction of progressive technology. At the same time, many ministries and departments, guided solely by departmental considerations, frequently try to locate new enterprises without taking into account

the balance of labor resources, hoping to provide cadres through their spontaneous movement. Unfortunately, traditional planning methods were formed under conditions of adequacy of labor resources, when disproportion between availability and workplaces was not always taken into consideration. Such executives must be corrected by directive organs of the republic on the basis of materials put forward by the BSSR State Committee for Labor.

So far our attempt to regulate in all areas the planning of indicators of the number of workers and labor productivity has been unsuccessful. For many subordinate associations and enterprises, ministries have established an unjustifiably high number of workers and correspondingly low indicators for growth of labor productivity, and many finished plans had to be repeatedly corrected in the course of their fulfillment along the line of reduction. In the course of 1982, the plan for labor productivity was repeatedly corrected in the direction of reduction at 270 industrial enterprises.

The heads of a number of ministries and departments, associations and enterprises are not meeting requirements at existing enterprises to provide growth of production volume with the same or lower number of workers or to adhere to limits prescribed for their size. Last year, the number of workers above-plan was about 1,500 persons.

A most important factor and necessary condition of effective use of labor resources is universal introduction of NOT [scientific organization of labor] and the brigade form of labor organization and stimulation. It is planned to provide an economy of up to 70,000 persons through the introduction of appropriate measures from the Trud Program. But in the 2 years of the 5-year period, only one ministry and two departments fulfilled the state plan of introduction of most important measures for scientific organization of labor. The collective form of labor organization is being feebly introduced at enterprises of the Ministry of Local Industry, the Ministry of Fuel Industry, the Ministry of Light Industry and BSSR Goskomsel'khoztekhnika, although during development of the program its demands did not arouse any doubts as to their feasibility. By the end of the current 5-year plan, it will be necessary to make up for what has been lost. The attention of the appropriate economic, technical and technological services of enterprises and associations, ministries and departments will have to be directed to the unconditional fulfillment of NOT targets and the organization of the brigade form of labor. It is also important to overcome the inertia of individual heads, who verbally talk of innovations, but when it comes to deed ignore, because of labor turnover, the elementary rules of organization of labor and production.

Despite the undertaken energetic measures, the problems of labor discipline, reduction of worktime losses and cadre turnover still remain acute. In our view, the solution calls for additional measures. In the republic, there are many associations and enterprises where they simply have become accustomed to violators of labor discipline and losses of worktime, do not disclose the reasons for them and make insufficient use of the resources of social action and administrative measures provided by legislation against loafers and unauthorized absentees.

Certain heads of associations and enterprises seriously consider possible the existence of losses of worktime, explaining this as ordinary production costs. Of course, such a position cannot be tolerated. The fact is that with each year the size of production grows and likewise a ponderable addition to the national income. So does the price grow of a lost work minute. Whereas in 1980 because of losses of worktime due to absenteeism, the possibilities were not employed for additional output of production in the amount of 20.5 million rubles, in 1982, despite reduction of the number of unauthorized absences--the amount was already 20.8 million rubles.

There is no way to justify the fact that losses of worktime not only are not being reduced, but, on the contrary, are growing. Last year compared to 1980, losses of worktime per worker increased at enterprises of the Ministry of Industrial Construction and the BSSR Goskomsel'khoztekhnika. In the the total amount of losses of worktime, 45.5 percent consists of absences of workers with management's permission. This again attests to the low demands of some executives and poor organizational work in regard to strengthening of labor discipline.

Due to worktime losses in industry alone, the national economy was shorted in production in the course of a year in the amount of about 100 million rubles. Yet the scale of losses can be sharply reduced. Moreover, without additional outlays. First of all, through strengthening of labor discipline, organization and order in production and stronger control over economical use of worktime.

The problem of turnover of worker cadres demands solution. At enterprises of the ministries of meat-dairy industry, agricultural construction, local industry and construction materials, the BSSR Food Industry and a number of others, the turnover is significantly higher than that existing in the republic. Cadre turnover remains high at the Orsha combines of construction materials, bread products, and prefabricated reinforced concrete products and structures and at the Borisov plants of household chemistry and reinforced concrete products, as well as Smorgon Mixed Feed Plant, Volozhin Flax Plant and a number of others.

Reduction of cadre turnover constitutes an important reserve for growth of labor productivity. It occurs primarily there where there is a lack of necessary concern for satisfaction of the needs of workers for normal conditions of labor and living conditions. As a result unplanned shifting of manpower continues to occur not only at specific enterprises but also intercity. Executives try to compensate for losses of worktime caused by turnover and other reasons by overtime work and work on days off, which in their turn also lead to big shifting of manpower. This is why it is necessary to overcome in a most decisive way the desire of some executives to cover existing defects with references to various objective reasons.

At the November (1982) Plenum of the CPSU Central Committee, attention was drawn to the unconditional need of fulfillment of designated plans and adopted decisions. The attainment of the Trud Program--a program of efficiency and quality of labor, ensuring the fulfillment of the targets of the 11th Five-Year Plan--is possible only through joint, well-coordinated work of all interested ministries and departments.

Scientist Suggests Labor Improvements

Moscow PRAVDA in Russian 26 Jul 83 p 2

[Article by A. Berdakov, senior scientific associate of the All-Union Scientific Methodological Center for Organization of Labor and Management of Production of the USSR State Committee for Labor and Social Problems, Moscow: "Man at Work--The Productivity of Our Labor"]

[Text] Today no other way exists of solving economic and social problems except through rapid growth of labor productivity. This can be achieved if equipment and technology are constantly improved, labor itself is qualitatively transformed, its yield is boosted and it is made truly interesting and creative.

In the materials of the 26th CPSU Congress and the June (1983) Plenum of the party, problems of growth of labor productivity occupied a very prominent place. In our country, important changes are occurring not only in the structure but also in the actual content of labor: the share of manual operations and of work under difficult and harmful to the health conditions is being reduced. In recent years, the working conditions of 20 million persons have been improved. The country's industry at the present time has about 200,000 mechanized flow and automatic lines and tens of thousands of comprehensively mechanized and automated sectors and shops. As we know, the CPSU Central Committee has adopted a decree on measures for the improvement of production and wide-scale use of automatic manipulators in the national economy. For the mechanization of processes involving difficult and unfavorable working conditions, it is planned to create and employ new kinds of materials-handling, loading and unloading and warehousing equipment.

As of now, 40 percent of our workers are engaged in manual labor. This particularly applies to so-called ancillary production where many labor operation and methods do not meet present-day psycho-physical requirements. Use of the latest equipment eases the physical load of a man, but at the same time, it increases stress on the nervous system, which affects working capacity, labor productivity and quality of production.

In this connection, in our view, the efforts of specialists should be concentrated, including physiologists and psychologists, not only on the comprehensive study of the character of the labor of various categories of people (this is being done today), but also on the solution of a less important problem--elimination of the so-called monotony factor from the process of any labor. This particularly applies to flow and conveyor production. Here the higher the complex automation of production processes, the greater the monotony, which tires a person and reduces his attention.

In order to prevent such negative factors, and they are going to arise more frequently with the further development of scientific-technical progress, it is necessary to comprehensively take into consideration sanitary-hygienic and ergonomic requirements at the stage of planning of enterprises, machinery and equipment.

Positive experience of such work exists in the country.

At the Volga Motor Vehicle Plant imeni 50-Letiye SSR, wide-scale use is being made of scientific developments of physiologists and hygienists to adapt the means and objects of labor to the human worker and to solve such important social-economic tasks as norm setting and remuneration of labor and raising of cadre skills. At the Volga Motor-Vehicle Plant, in order to reduce the negative effect of monotonous work, physiologically sound conditions of work and rest have been introduced, here functional music and production gymnastics have become well accepted.

At a number of enterprises, production efficiency is being raised through improvement of the labor process by taking into account recommendations of physiologists, hygienists and psychologists. This applies to Kiev's Leninskaya Kuznitsa Plant, the Perm Telephone Plant and Taganrog's Krasnyy Kotel'shchik Plant.

It can be said with full justification that Soviet physiology and psychology of labor today are on the upswing of scientific research. If, let us say, 25 years ago, specialists concentrated their chief attention on investigation of the organism of workers engaged in the performance of heavy physical labor, today, in connection with the stormy growth of science and technology, the efforts of scientists are directed at the cognition of more refined phenomena, particularly the state of the nervous system in the process of labor. Next in turn are scientific norm setting of the labor outlays of primary and ancillary operations, development of criteria of occupational abilities and creation of optimal principles of management for the system "man--production."

Here, of course, much still remains to be done. Take, for example, improvement of norm setting of labor. It has been proceeding slowly so far. Why? I believe there are several reasons. Specifically, unified methodological approaches have not been developed for the study of the human organism's reaction under conditions of labor activity, especially in time dynamics. No single theoretical basis exists permitting the generalization of disparate experimental research. Criteria are diffuse for assessment of the complex influence of factors of the production environment on the organism of workers.

I am convinced that the time has come for more determined and purposeful special research both under laboratory conditions and directly in shops of enterprises and in work areas.

Of course, what is meant is deep and more comprehensive investigation of the problems under consideration, which is possible only for such large organizations as Scientific-Research Institute of Labor of the USSR State Commission for Labor and Social Problems, the institutes of labor safety of the AUCCTU, the Scientific-Research Institute of Labor Hygiene and Occupational Diseases of the USSR Academy of Medical Sciences and several others. The idea is to boost the practical yield of the work of the enumerated organizations and to bring them as close as possible to life. On the other hand, better use should be made of the resources of the many-thousand contingent of labor psychologists, many of whom work in sectorial laboratories and departments without an experimental base or instruments.

I would like particularly to point out that in addition to theory a greater need exists for practical work directly at shops, sectors and workplaces. This is especially important today when the brigade form of labor organization is being increasingly more widely used. The underestimation of such work by the heads of certain enterprises costs society dearly: the percentage of production traumatism and vocational diseases is increasing, and the amount of payment of benefits and compensations for harmful working conditions is growing.

Has not the time arrived in the working out of plans for introduction of new equipment, production processes and modernization of enterprises together with technical-economic indicators and the level of inclusion of workers in mechanized labor, to specifically plan the improvement of conditions of labor (elimination of noise, vibration and presence of gas and dust). It is necessary to also improve control over the state of the production environment. For this it would be advantageous to set up even now at large industrial enterprises sanitary-hygienic laboratories equipped with the necessary apparatus and staffed with specialists.

It is important to include sanitary-hygienic measures in the social development plan of labor collectives as well as in collective contracts and labor agreements. In addition to other parts, leading collectives provide in the sanitary-technical certificate a quantitative evaluation of labor safety. And, of course, in the planning of healthy and safe working conditions, one should without fail keep in mind that a radical improvement of these conditions would be unthinkable without an improvement not only of primary but also of ancillary production operations. The fact is that the cost, for example, of shifting one worker in machine building from manual to mechanized labor in ancillary operations is one-third what it would be in primary operations. At the same time, many associations and enterprises allocate as of old the lion's share of funds for technical improvement of primary production while depriving ancillary production.

In attaching primary importance to the social effectiveness of improvement of the conditions of labor, our society also takes into consideration the economic aspect of this matter. At the Scientific-Research Institute of Labor of the USSR State Committee for Labor and Social Conditions, a special "Method of Determining the Economic Effectiveness of Measures for Improvement of the Conditions of Labor" has been worked out. But for all practical purposes, few make use of it. Cases are frequent where shortly after the startup of new enterprises people ... to eliminate improve conditions of labor. But is this efficient? Would it not be possible to analyze in advance conditions of work at a shop that is under construction or is being modernized? I believe that it would be advantageous to begin stat control even before the startup of a plant or shop and terminate it on the attainment of the planned capacity by the enterprise.

Our common concern is to create in each enterprise, in each shop, in each brigade all the conditions for highly productive labor.

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LABOR

BETTER ORGANIZATION, TRAINING OF STUDENT FARM DETAILS URGED

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 8, Aug 83 pp 9-18

[Article by N. Dolgushkin, secretary, Central Committee of the All-Union Leninist Communist Youth League: "Placing the City's Patronage Over the Countryside on a Planned Basis."]

[Text] As noted at the 26th CPSU Congress, concern for personnel and the rational use of labor resources, which has been repeatedly emphasized in party documents, acquires decisive significance in the realization of tasks confronting agriculture. "In order to resolve the task of making more effective use of land and the production potential in the countryside," Yu. V. Andropov noted at a meeting at the CPSU Central Committee in April 1983, "it is necessary to assign top priority to providing kolkhozes and sovkhozes with a stable work force."

In some regions of the nations, the rate of migration from the countryside is more rapid than the growth of labor productivity on kolkhozes and sovkhozes and has a negative impact on the manpower supply of agricultural enterprises. Suffice it to say that the rural population in the last 10 years has declined by 7.4 million persons and the size of the agricultural work force has diminished by 1.1 million.

The mass, frequently unregulated migration of the able-bodied population (for the most part, young skilled workers) from the countryside dramatically affects the qualitative composition of the rural work force and exacerbates the manpower shortage especially on farms and in regions already experiencing such a shortage. This is especially evident in the Nonchernozem Zone where the share of pension-age people has increased significantly in most oblasts while the share of youth (including children) has declined thereby in turn affecting the rate of natural increase in the able-bodied rural population.

As a result of the existing situation, many regions of the nations that are faced with a shortage of manpower are more and more frequently and on an ever larger scale hiring manpower from other branches of the national economy as well as students and pupils from schools, vocational-technical training schools and technicums. Between 1970 and 1980 alone, the number of workers hired from outside sources more than doubled: from 600,000

persons (computed on an average yearly basis) to 1.3 million (see: SOTSILOGICHESKIYE ISSLEDOVANIYA, No 1, 1983, p 57). Naturally the diversion of such a large number of workers is very costly to the national economy. Nor do these figures reflect the growth of all social outlays on agricultural production or the damage that is inflicted on enterprises in other branches that are compelled to "detach" their personnel for work in the countryside during the period of seasonal work. These outlays form from numerous factors, the most important of which are: temporary absence from the basic workplace, which has a negative impact on the fulfillment of the production program, the overexpenditure of wages (which the workers continue to receive in full or in part), the cost of transporting them to the place of work, the cost of getting them settled and providing services to them, the cost of training them in the necessary occupational specialties, etc.

V. I. Lenin regarded patronly aid [shefskaya pomoshch'] of the city to the countryside as one of the factors in the socialist transformation of agriculture and in the creation of a fraternal union between the working class and the peasantry. He repeatedly emphasized that one of the most important tasks of socialism is to bring industry and agriculture closer together and to develop industry to such a level that it would be capable of industrializing agriculture as well.

There is no need to prove that the participation of patrons is most effective in the development of the material and technical base of agriculture, in the mechanization and automation of production, in the planning and construction of rural housing, roads and sociocultural facilities, i. e., where the professional skills, knowledge and experience of city dwellers, representatives of industrial enterprises, planning and design organizations, and higher and secondary specialized education institutions can be used with maximum benefit.

Positive experience in this area has been amassed in Leningrad Oblast*, Dnepropetrovsk Oblast and other oblasts.

Thus, for example, Komsomol-youth construction and specialized detachments in Dnepropetrovsk Oblast that are made up of highly skilled workers and engineering-technical personnel are engaged in the reconstruction, repair, mechanization and automation of livestock farms and in the construction of production-related and sociocultural facilities. In Krivoy Rog alone, 25 such detachments with a total complement in excess of 500 persons have been created. In the last 2 years, they have built and equipped 11 livestock buildings and feed shops, 5 grain sheds, and 178 farmstead-type houses on farms that are the objects of their patronage. Young rationalizers from the "Krivorozhstal" Plant have developed and introduced a technique for producing roadbuilding materials from the mining and metallurgical waste. Komsomol-youth crews of drivers of heavy cargo trucks from urban automotive enterprises and detachments of shock workers built more than 200 kilometers of hardtop roads. Today all roads leading to villages and farms in the rayons under Krivoy Rog's patronage have been asphalted.

Many collectives at the nation's industrial enterprises actively participate in the effort to supply equipment to kolkhozes and sovkhozes and fill rural dwellers' orders for the production of spare parts, nonstandard equipment and various types of agricultural machinery.

*A more detailed account of the experience of patronly aid in Leningrad Oblast is presented in the next article in the present issue.

Fodder procurement continues to be the most labor-intensive sector in agriculture and this branch is a major user of additional manpower. Many urban enterprises and organizations are assigned hay procurement targets. Small-scale mechanization can help to increase the labor productivity of city dwellers and to reduce the number of additional workers needed (manual power mowers are especially useful and in particular can be used to harvest grasses on unproductive land. For example, Moscow Oblast youth detachments (with a combined complement of about 13,000 persons) equipped with such mechanisms procured more than 100,000 tons of hay last year.

Yaroslavl Oblast industrial enterprises developed and produced the YaSK-170 "Yaroslavets" self-propelled fodder harvesting combine. The creation of integrated interfarm fodder procurement detachments consisting of young equipment operators trained at a motor plant and at agricultural equipment enterprises plus the good organization of technical maintenance made it possible to raise output per combine in the best of them to 7-9.5 thousand tons of green forage for the season.

But there also numerous problems in this effort. There is still a shortage of compact machinery, manual power mowers, and light vehicles required for harvesting natural grasses on river floodlands and at the edge of forests. The protraction of haying time and the violation of technology result in the lowering of product quality which devalues the work of thousands of people.

Animal husbandry also needs the city's help. Naturally we are not talking about calling on city workers to dispense fodder or milk cows. The city must help the countryside to eliminate the factors that generate high turnover among farm personnel and that make the occupation of animal husbandryman unprestigious among youth. The main factor is heavy manual labor and the long, irregular work day. We note that the level of total mechanization in dairy animal husbandry is only 43 percent, that 10 percent of the cows are milked by hand and that only 5 percent of the farms have been converted to two-shift operation. Naturally such working conditions and production organization cannot satisfy young rural workers.

The need for the immediate solution of these problems was indicated in the article "Marx's Teaching and Certain Problems of Socialist Construction in the USSR" by Yu. V. Andropov: "...it is sufficient to picture the strained manpower situation and the demographic situation in the country to understand the economic inadmissibility of the perpetuation of a considerable share of manual, unmechanized labor which in industry alone is as high as 40 percent. This is why the all-round acceleration of the rate of scientific and technical progress and the more active use of its attainments, especially in sectors where the labor expenditures are especially great, are so urgent today. We have the basis for this....The point is to make better use of all our opportunities in a shorter period of time, to improve the culture of labor and the organization of production" (KOMMUNIST, No 3, 1983, p 17).

Under the 11th Five-Year Plan, the production of machinery for animal husbandry and fodder production is scheduled to be increased 1.4 fold. This will make it possible to raise the level of total mechanization on

cattle farms, to make broader use of progressive technology in livestock and dairy complexes and to economize on labor resources significantly. Calculations show that the introduction of the systems of machines recommended by science would make it possible to release more than a million workers in animal husbandry (see K. M. Bogolyubov, "Prodovol'stvennaya programma SSSR: soderzhanie i puti realizatsii" [The USSR Food Program: Content and Ways of Implementation], Moscow, 1983, p. 83). This will require the development and production of 250 new machines before the end of the five-year plan and an almost twofold increase in their delivery to farms. Since industry's potential is limited, it is extremely important to strive for the better use and for more intelligent operation of the equipment that is delivered and to raise the cultural and technical level of the work force on the one hand and to enlist the aid of collectivies of patron industrial enterprises more widely in strengthening the material and technical base of animal husbandry, to provide farms and complexes with the necessary mechanisms and to reduce the share of manual labor. In the course of the All-Union Review of the Organization of Labor and Production Culture in Animal Husbandry, which the Central Committee of the All-Union Leninist Communist Youth League in 1983-1984, it is planned to direct the assistance of city dwellers toward the resolution of these questions.

The seasonal character of the work and the resulting uneven requirement for manpower at various times of the year are important features of agricultural production. One way to resolve this question is to create subsidiary enterprises and trades. For example, a so-called "field sewing shop" is in operation on the Kolkhoz imeni Lenin in the Novomoskovskiy Rayon of Tula Oblast. More than 200 women work in a brightly illuminated, spacious room. Most of them are young women who sew children's clothing that brings four million rubles a year to the kolkhoz coffers. When field work begins, they tend sugar beet crops, vegetable crops, etc. Even in the most intensive periods, the farm has virtually no need to hire extra hands.

In our view it would be expedient to plan the location of subsidiaries and affiliates of industrial enterprises on kolkhozes and sovkhozes so that some of the labor resources used to fill industry's orders in the period between seasons could be switched to agricultural work during the harvest without the additional cost of placement, transportation and training. Such assistance by the city would promote the stabilization of labor collectives in the countryside, would facilitate the retention of youth (especially females) and ultimately the better utilization of labor resources and consequently the gradual reduction of the number of outside workers that have to be called in.

However in addition to measures that are taken to create stable labor collectives on kolkhozes and sovkhozes, it remains for the time being an objective necessity to call in additional workers in a number of regions especially during the period of intensive agricultural work. This is primarily due to the fact that the level of mechanization of labor in agriculture is still not so high that kolkhozes and sovkhozes can get by using only their own work force. However, as a result of the demographic consequences of the Great Patriotic War, it is impossible to count on

a significant increase in labor resources in the national economy in the near future. And finally, as practice shows, even countries that have a highly productive socialist agriculture which for the most part satisfies its personnel needs from its own resources (for example, the GDR, Czechoslovakia and Hungary) have to call in additional working hands to perform certain types of seasonal work.

To be sure, assistance to the countryside here is not economically burdensome to industrial enterprises. These needs are satisfied only in part by industrial enterprises and then on the basis of a contract the execution of which is monitored by state organs. Most of the additional workers hired belong to the relatively free segment of the urban population: pensioners, servicemen on leave and housewives who have experience working in agriculture. They are formed into special brigades and contracts are concluded with them. School pupils, VUZ and vocational-technical training school students also take part in agricultural work on a contractual basis. One-day trips of city dwellers to the countryside at the behest of the local authorities are considered relatively ineffective and are resorted to only when the situation is crucial, e. g., when the harvest is in danger.

Specialists who know how to operate equipment can also be sent from industrial enterprises. Some of them spend their vacation time working in the countryside. Those who remain behind in production fulfill their norm for additional remuneration since people participating in agricultural work usually do not receive wages at the enterprises. And since the brigades operate on a cost accounting basis irrespective of their structure, agricultural enterprises also have a material interest in the optimal number and effective use of extra hands.

In this regard, it is an urgent task to find ways of making rational use of extra hands in agriculture, to generalize and disseminate the experience we have amassed in this regard as well as the experience of countries in the socialist community.

Unfortunately the effectiveness of the work of the extra hands continues to be low on many farms. According to a number of studies, city dwellers who are transported daily to the workplace [in the countryside] (in our view, the most irrational form of patronly aid) fulfill the output norm by not more than 25-30 percent. The low level of productivity and quality of labor of the extra hands is attributed to their lack of interest in the results of the work, by the lack of preparedness of most of them for farm work and to shortcomings in the production processes on kolkhozes and sovkhozes. It is no secret that the persons who are sent to perform agricultural work frequently have a low skill level and are not especially industrious or disciplined. All this is by no means best reflected in the economic and social consequences of patronly aid.

How can the productivity and quality of the labor of extra hands be improved and consequently how can their number be reduced? Hardly anyone would doubt that a most effective if not the only way to the attainment of this goal is to raise the level of organization of their labor, to improve the occupational training of city dwellers and to increase the level of interest in the results of work in the countryside.

In our view, attention is merited by the experience of Komsomol organizations in Orel, Tula, Moscow and a number of other oblasts where urban youth are formed into special, so-called agricultural detachments (operating according to the same principle as student construction brigades) for work on kolkhozes and sovkhozes.

At Orel Oblast enterprises, members of detachments (average size 25-30, sometimes as large as 40 persons) are selected on a voluntary basis 3-4 months before their scheduled departure to the farms that are the beneficiaries of patronage. During the preparatory period, boys and girls acquire the occupational specialties they need to work in the countryside and learn safety engineering. It should be noted that in addition to the production program, youth detachments also carry out a certain amount of mass cultural work: give concerts, decorate schools, clubs and culture centers and organize competitive sporting events. The detachments' activity are directed by a headquarters staffed by brigade leaders, Komsomol organizers as well as a commander and a commissar that are chosen from the Komsomol aktiv and are confirmed by the bureau of raykoms and gorkoms of the Komsomol.

The places where the detachments are to be stationed are determined beforehand and, what is very important, contracts are invariably concluded with the host farms. The contracts clearly define the volume, deadlines and demands on the quality of the work to be performed; working, living and rest and recreation conditions; and make provision for supplying the detachments with the necessary equipment, mechanisms and gear.

The structure of management of the detachments is well organized in Orel Oblast. Their work is monitored by zonal headquarters that are staffed by Komsomol workers at industrial enterprises. All the necessary information on the course of fulfillment of commitments and on the state of social work is concentrated at the Komsomol obkom and the victorious detachments are awarded transferable penants and diplomas. Their activity is widely described by the mass media.

What does the practice of sending young city dwellers into the countryside in detachments have to offer? First, as a result of the more precise organization of labor, high discipline and effective socialist competition, labor productivity is raised considerably. Last year, for example, three detachments numbering 120 persons in the "Orelkhimtekstil'mash" Production Association coped with a volume of sugar beet harvesting work that previously would have required the diversion of 500-600 persons from basic production.

Second, the detachment form of organization of and the training of envoys from the city in agricultural specialties make it possible to use them in more highly skilled work. At the "Tekmash" Plant (another Orel enterprise), seven mechanized detachments were created to harvest potatoes. Equipment operators were trained in the winter time. The young workers themselves repaired the machinery that was assigned to them. As a result, the number of people sent to harvest areas allotted to the enterprise was cut in half in 1982. On the whole, labor productivity in 140 Orel Oblast detachments (with an aggregate complement of approximately 3500 persons) was 1.5-2 times higher than in the case of workers who were called upon to perform agricultural work as extra hands but who did not belong to such formations.

One frequently hears thoroughly justified censure directed toward the patrons concerning the low quality of the work performed and the careless treatment of allotted equipment and gear. This happens because the wages of the extra hands are not always made directly dependent on the final results because they are not vitally concerned with the harvest and with preserving it in its entirety. In order to eliminate these shortcomings, 14 youth detachments in the Shchekinskiy Rayon of Tula Oblast were converted to operation according to the brigade contract and assumed the responsibility for the performance of the entire potato cultivation cycle. The benefit of this is indicated by the following data: while in 1980, 3120 persons were sent from industrial enterprises to farms that were the object of patronage, in 1982, 2158 persons (i. e., almost a thousand persons fewer) were required to perform the same volume of work.

In the Mordovian ASSR, plans governing the formation and stationing of youth agricultural detachments are ratified by a decision of the CPSU obkom and the republic Council of Ministers while the oblast headquarters for student construction detachments manages all work on their establishment and administration. Last year, 3000 young workers who worked in the countryside in agricultural detachments stored up that same quantity of fodder than had previously been procured by 10,000 temporary workers.

These examples offer convincing evidence that it is possible to use additional labor resources considerably more effectively when serious attention is given to the organization of the work of extra hands, when careful preparations are made to receive them and when the initiative of Komsomol organizations finds the broad support of party and Soviet organs and the managers of kolkhozes, sovkhozes and industrial enterprises.

It is a common practice to enlist the aid of VUZ students, pupils of technicums and vocational-technical training schools and upper graders in seasonal agricultural work. Educational institutions in Kazakhstan, the Ukraine, Orenburg, Saratov and a number of other oblasts have amassed experience in forming student mechanized detachments. They are usually made up of students of agricultural educational institutions who are licensed tractor and machinery operators and have a practical work background. Student harvest complexes operating according to the Ipatov method and performing the full cycle of agricultural works are working successfully in Rostov and Turgay Oblasts. On the basis of long-term contracts with kolkhozes and sovkhozes, the detachments are supplied with the necessary equipment which they themselves repair.

More and more often, student detachments working on the harvest perform the entire cycle of technological operations including not only the harvesting but also the subsequent transporting, processing and sale of the product. For example, an integrated interterritorial student detachment organized on the basis of the Moscow Technological Institute of the Food Industry began work this summer. One part of the collective harvests vegetables while another part of the collective loads the harvest onto trucks, hauls it to procurement offices and dispatches barges. Members of the same detachment are on hand to receive the harvest when it arrives in the capital's

Northern River Port where they unload the vegetables, deliver them to stores and street stands and also take their place behind the counter. High quality output, minimal losses and cultured service--such is the motto of the detachment that unites participants in the harvest in all stages from the field to the counter through collective responsibility and a common interest in the end results.

The experience of creating such student formations exists in Stavropol and Krasnodar Krays, in Armenia and in Rostov and Orenburg Oblasts. Labor productivity in integrated detachments is usually 20-30 percent higher than in conventional detachments. According to Orenburg trade organizations, for example, losses of vegetables from the field to the consumer are reduced to approximately one-fourth of the previous level.

Approximately two million VUZ and technicum students take part in fall agricultural work every year. This is why it is so important to secure further improvement in the organization of their labor and to make rational use of this additional source of labor power on kolkhozes and sovkhozes. Considerable progress has been made in this regard in recent years. All agricultural detachments formed by educational institutions are formed exclusively according to the principle governing the formation of student construction detachments and operate on the basis of a standard contract with farms. Long-term contacts of VUZ's with kolkhozes and sovkhozes are being strengthened. The application of the detachment principle in the organization of harvesting operations has made it possible to increase the labor productivity of students by 30-40 percent, to improve the quality of their labor and, what is especially important, to reduce by an average of one-third the length of time that school youth are diverted from their studies so that they may perform agricultural work.

School pupils render a large measure of assistance to kolkhozes and sovkhozes in the performance of a number of seasonal operations and especially in bringing in the harvest. Every year approximately 10 million upper graders take part in the summer labor quarter every year. Over 60 percent of them work in fields and on farms as well as at food industry enterprises thereby releasing a considerable number of workers.

"The combination of teaching with productive labor," Yu. V. Andropov emphasized at the June (1983) Plenum of the CPSU Central Committee, "is a good educational device. We must firmly implement a policy of instilling the school pupil with the habit and love of useful labor. This may be physical or mental labor, but it must be genuine productive labor that society needs."

As experience shows, the properly organized labor of adolescents in pupil production brigades and in work and recreation camps is not only of important educational significance but also has an appreciable national economic effect.

For example, last year Moldavian school pupils harvested 60,000 tons of fruit and vegetables; participants in Operation 'White Gold' in Uzbekistan turned over 1.5 million tons of cotton to the state; and Kaluga Oblast school pupils produced 80,000 tons of fodder beets and 15,000 tons of potatoes.

In Stavropol Kray, pupil production brigades numbering more than 70,000 school pupils produced 16 million rubles' worth of products last year. Following the example of Budennovskiy Rayon, pupils of rural schools and vocational-technical training schools were formed into school mechanized complexes. There are now 11 such complexes in the kray. They unite more than 350 pupils that perform all operations--from preparing the soil to harvesting the crop--on the fields assigned to them. Last year more than 4500 upper graders in school mechanized links and detachments harvested grain crops. They harvested 145,000 hectares and milled more than 300,000 tons of grain, which comprises one-tenth of Stavropol Kray's harvest.

The kray's pupil production brigades enjoy the rights of independent structural subdivisions of kolkhozes and sovkhozes. Forty-seven thousand hectares of land and 2500 units of machinery have been allotted to them. They have at their disposal agricultural machinery classrooms, workshops and agrochemical laboratories. The absolute majority of brigades have stationary field camps with sleeping quarters, canteens, showers, recreation rooms and sports complexes.

The involvement of school pupils in independent productive labor in brigades and links operating on the basis of contracts with farms makes it possible not only to resolve the problem of using extra working hands during the harvest but is also instrumental in the training of a reserve force of equipment operators, in helping pupils to choose an occupation intelligently and has a positive impact on the retention of school graduates on kolkhozes and sovkhozes. As a rule, more than 80 percent of the school pupils who participate in the harvest as members of mechanized links remain to work on farms in their native locality. Today practically one-half of the kray's agricultural work force is made up of former members of pupil brigades.

Krasnodar Kray has amassed interesting experience in creating mixed links consisting of labor veterans and school pupils. These links weed vegetables and harvest berries and fruit 4 hours a day--a work schedule that is entirely within the grasp of both veterans and adolescents. Last year, on the Kolkhoz imeni Suvorov in the Bryukhovetskiy Rayon, mixed links of Secondary School No 5, each of which includes one veteran and two or three pupils, harvested 30 percent of the vegetable crop, 95 percent of the fruit crop and weeded one-third of the entire sunflower field.

Today there are more than 200 such links in the kray. There is no need to argue their great potential importance both for instilling adolescents with a love for the land and respect for agricultural labor and for hiring and the more rational utilization of additional labor power, including pensioners, on kolkhozes and sovkhozes.

The aid of urban school pupils in agricultural work is also enlisted. There are already more than 25,000 work and recreation camps in operation throughout the nation. One-half of the city upper graders in Kuybyshev and Moscow Oblasts and one-third of the urban upper graders in Sverdlovsk, Kemerovo and Volgograd Oblasts spend their summer vacation in these camps. Patron enterprises frequently participate in the creation of the camps' material base. In the fall, city dwellers engaged in agricultural work live in these camps.

However labor associations of upper graders have not yet by any means been established in all schools. The material base of some of them does not meet modern demands. Only one-third of the pupil production brigades have equipped field camps. Many do not have land and equipment assigned to them. As a result, upper graders are assigned to nonproductive, monotonous, subsidiary work which does not by any means encourage them to opt for an agricultural occupation.

It would be well to construct interrelations between the school and the farms on the basis of a standard economic contract so as to bring order to the involvement of school pupils in agricultural labor and to use them with a greater degree of effectiveness. While such contracts exist in the Ukraine, in the Baltic republics, in Kirghizia and Uzbekistan, and a number of RSPSR oblasts, nonetheless many economic, organizational and financial questions are variously interpreted in them.

The time has also come to devise a unified statute on the work and recreation camp based on kolkhozes and sovkhozes. These camps should probably be built and maintained by enterprise funds for sociocultural measures and housing construction, i. e., should be handled the same way as Young Pioneer camps.

Since the training of upper graders in the operation of agricultural machinery has acquired a mass character and since they are taking an active part in a number of agricultural operations, the time has finally come to permit pupil production brigade members who have received special training and have reached the age of 16 years to operate tractors and combines.

The broader use of other sources of additional labor power--pensioners, housewives, servicemen on leave--is one of the ways of curtailing the number of workers who are taken from their jobs at industrial enterprises or building sites so that they can perform agricultural work.

In some regions of Moldavia, the Ukraine and the Baltic Republics, the aid of the urban population is widely enlisted in the harvesting of fruits and vegetables without detriment to industrial enterprises. People willingly go to the countryside because they have a material incentive in performing such work. Money wages are frequently combined with wages in kind.

For example, the Sovkhoz imeni Vatutin in Kiev Oblast has a daily requirement of approximately 500 persons to harvest the strawberry crop. Understandably, such a number of extra hands are not available on the farm itself. The answer to the problem was found in enlisting the aid of the relatively free segment of the Kiev population. Through the mass media and public announcements, the sovkhoz informs city dwellers on the need for pickers and on wage terms. Housewives, servicemen on leave, pensioners and employed city dwellers on their days off willingly assist in the effort. They receive a certain percent of the harvested products for their work and are also entitled to use some of their earnings to purchase several kilograms of berries for retail prices.

Everything would seem to be simple. But there are numerous problems even in this effort. City dwellers are frequently totally unaware of the possibility of participating in such work. Obviously we should make wider use of the mass media and employment offices that would receive personnel requisitions from farms and that would inform the public about working conditions and pay. It is also expedient to form citizens voluntary participating in the harvesting of fruit and vegetables into brigades, to conclude contracts--including long-term contracts--with them, and to institute certain benefits for the most active and constant pickers.

Thus we find that the objective need to draw additional labor power into agriculture still continues to exist. Hence we must find ways of using it more efficiently.

It is first of all necessary to secure the precise planning of the city's patronly aid to the countryside. To this end, we should determine the precise requirement of kolkhozes, sovkhozes and rural rayons everywhere for additional workers in various occupational specialties and the period for which they are needed with due regard to the level of technical inputs per worker on the various farms, the labor-intensiveness of the crops, and the given weather conditions.

It is important that the interrelationships between urban enterprises and farms that are the objects of patronage be based on long-term contracts specifying deadlines and types of work to be performed, the number of extra hands to be hired, and the rights and duties of both parties to the contract. The contractual basis should bring order to the practice of assigning additional labor power to agricultural jobs and should compel farm managers to strictly observe the necessary demands on the creation of normal working, living and recreational conditions for the newly hired workers and on the more precise organization of their work.

Today the city's patronly aid to the countryside cannot be evaluated solely in volume terms, i. e., according to the number of workers sent out to harvest vegetables, potatoes and fodder. We must do our utmost to reduce labor inputs in agricultural output by strengthening the material and technical base of kolkhozes and sovkhozes and by further mechanizing and automating agricultural processes.

Patronly aid must contribute not only to the solution of production problems but also to the solution of social problems as well: the construction of housing, schools, hospitals and preschool institutions; the development of subsidiary enterprises and crafts; the improvement of the road network; and the raising of the level of mass cultural and sports work. This will promote the retention of youth on the farm, the creation of stable labor collectives and will ultimately make it possible to reduce the requirement for additional labor power significantly.

Even today industrial enterprises in many oblasts are using their own work force to build production facilities and sociocultural facilities in rural areas. However economic managers are frequently confronted with

problem of finding ways of carrying out rural construction programs and of finding metal and other scarce materials in the face of the intensification of the economy program. All this should obviously be taken into account so that enterprises would not maintain a "contingency reserve" of material resources and manpower that would enable them to meet their patronly commitments.

Taking into account the ever growing magnitude of patronly aid of the city to the countryside, it is expedient to draft and adopt appropriate legislative acts and organizational, legal and financial statutes on the given question.

Broader use of the labor of housewives, pensioners and other relatively free population categories and of [VUZ] students, school pupils and vocational-technical training school students should be made during intensive periods of agricultural work.

The question of developing work incentives for extra hands is also a matter of no little importance. There is a need for the further study of the expedience of continuing the practice of paying [extra hands] a considerable part of their wages at their basic workplace, which does not by any means always create the necessary motivation and is not optimally reflected in the productivity and quality of labor on farms that are the object of patronage. At the same time, the responsibility of economic managers for the organization of the labor of workers, for providing the necessary mix of jobs and for supplying workers with machines and mechanisms should be raised. It is also essential to create material incentives for members of labor collectives who perform the work of those who go to work in the countryside.

In our opinion, it would be correct to give extra hands some of the agricultural output free of charge at a reduced price as a part of their wages. It also seems expedient to give or sell a certain part of the fodder produced to workers with the aim of developing personal household plots.

The implementation of the Food Program and the raising of the effectiveness of agricultural production require the further improvement of such a large-scale and complex task as the city's patronage of the countryside and its conversion to a planned, long-range basis.

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EDUCATION

EDUCATOR CALLS FOR HIGHER EDUCATION POLICY REAPPRAISAL

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[Article by Professor A.Ya. Savel'yev, director, Scientific Research Institute for Problems of Higher Schools: "For Comprehensive Research into Problems of Higher Education"]

[Text] The growing importance of higher education under conditions of developed socialism, the expansion of its functions and size, and a significant concentration of scholarly potential in higher schools determine the necessity for comprehensive theoretical research in the area of the organization of higher education, a synthesis of current experience, the introduction of progressive practices, methods and means for education, and an improvement in the administrative system of higher schools. Requirements for its up-to-date development, formulated in the documents of the 26th CPSU Congress, give a sense of urgency to this educational problem that is primarily related to raising the quality of education by strengthening the ties with production, improving the use of the scientific potential of VUZes, and improving the planning system for training specialists.

The solution to these problems is possible only through a comprehensive and systematic study of higher and secondary specialized education that is based on modern, scientific methods of conducting research and on the latest achievements in the natural, social and technical sciences.

The experience of our NII [Scientific Research Institute], as well as that of VUZes that have an active scientific research function in the field of higher education, shows that it is impossible to substantively raise the effectiveness of the higher and secondary specialized education system by implementing various unrelated measures. The best beginnings, for example, the development and introduction of technical teaching aids or the use of the problem-solving method of teaching, etc., do not guarantee that the required result will be achieved if they constitute an end in themselves and do not have a mutual organic tie with the whole program for improving the system of higher education.

Goal directed planning, the methodological principles of which are embodied in the documents of the 26th Party Congress, allows establishing the required premises for systematic research into problems of higher schools, increasing the effectiveness of project planning and accelerating the implementation of these projects into VUZ operations.

The principal connection in the planning system for scientific research in the field of higher education is comprised of the coordinating plans approved by the USSR MinVUZ [Ministry of Higher and Secondary Specialized Education]. Traditional research planning included in the coordinating plan began with preparing justifications for proposed subjects and problems presented for consideration by individual scientific groups and even by scientists and teachers who express an interest toward problems of higher schools.

In putting together the coordinating plans for the last and the present five-year plan, a persistent requirement emerged for using programmed goals and principles in planning NIR [scientific research work]. In formulating the 1981-1985 plan, however, we were not able to completely eliminate inconsequential subjects, wordiness of proposals, the diffusion of the educational capability of higher schools and duplication in conducting research.

Now, the NII for Problems of Higher Schools has reworked the Statute on Coordination of NIR on Problems of Higher and Secondary Specialized Education, in which the role of the NIIVSh [Scientific Research Institute for Higher Schools] as a coordinating body has been increased; and it has developed a Statute for Implementing NIR Results in the Operations of Institutions of Higher Education. The primary goal we were pursuing in preparing these documents was to concentrate our efforts on resolving the most urgent problems of higher education, based on a wide implementation of program and goal planning. The first priority among these problems is for further improving the quality of teaching. The real need to resolve this problem is dictated by tasks for improving the quality of training specialists, not only for bringing this training up to date in order to meet current requirements, but also for meeting long-term future requirements for the economic, scientific-technical and social development of our country.

Regarding the problem of raising the quality of teaching, what we have in mind first of all is research directed at implementing a number of measures for improving the professional mastery of pedagogical scientific personnel in accordance with changing requirements in education; for strengthening the role of active training methods; for making students' independent work more meaningful; for introducing student research work as an integral part of the educational process; for filling the teaching process with modern technical equipment, etc. The development of this series of measures is possible only if it is based on modern educational theory for higher schools.

One of the central problems of VUZ pedagogy is to determine the content of specialist training. It is necessary to develop a scientific basis for determining the curriculum of higher education because by now practically every possibility has been exhausted for having a comprehensive approach to the development of training material based on the broadening of training programs.

VUZes have accumulated a great deal of research and practical experience in improving the content of education and optimizing planning for the training process. Based on a summary of this experience, our institute has developed general methodological principles for determining the contents of education.

These principles have been implemented within a unified structure of qualification standards for specialists and within the system for compiling sample training plans.

At present, qualification standards have been developed in all VUZ specialties with the scientific-methodological advice of the USSR MinVUZ and with the participation of the VUZes. They are being used in practical work in compiling lesson plans and programs, as well as for planning, disseminating and organizing the work of VUZ graduates. At the basis of the methodology for developing qualification standards lies a systems analysis of the professional work of specialists, which is implemented by a broad utilization of prognostic methods and by long-range perspectives for scientific-technical and economic development.

It should be recognized, however, that while qualification standards have been developed, the methodology proposed by us has not yet been fully implemented, because it involved comprehensive research, which takes time and the necessary personnel.

The result of the development of qualification standards has been the creation of a good initial basis for a reexamination of master teaching plans to be implemented this year. To accomplish this important and responsible task, the Institute, having been given the responsibility by the USSR MinVUZ, has prepared the necessary methodological materials, primarily, methodological recommendations for compiling master teaching plans that were developed by the NIIVSh, together with the MISI [Moscow Civil Engineering Institute], MVTU imeni N. E. Bauman [Moscow Higher Technical School], the MINKhICGP [Moscow Petrochemical and Gas Industry Institute imeni I. M. Gubkin] and a number of other VUZes. A reexamination of teaching plans for 206 engineering-technical speciality profiles is being completed now under the scientific leadership of the institute.

According to many VUZes, the methodology for developing the lesson plans has been successful. It regulates the procedure for formulating the lesson plans from determining the contents of disciplines to distributing them by semesters and establishing control measures in each discipline. The methodology provides for coordination between contents and the sequence in studying academic disciplines, regulation of lecture hall and non-lecture hall independent work of students, and a broad utilization of computers for analyzing a large number of permissible variants in lesson plans (for example, an analysis of over 370 variants was made for the 0608 specialty).

At present the institute is working on a system for planning and methodological support of the training process for higher schools. This system includes (besides methodologies for compiling qualification requirements and model lesson plans) methodological instructions for writing programs for academic disciplines, among them, working programs, study schedules and schedules for other standardized training documents that determine the subject matter, organization and methods of training. Instruction Letter No. 32 from the USSR MinVUZ, dated October 22, 1982, implements in VUZes the unified structure of the working program and its

methodological instructions that were developed by the NIIVSh. The implementation of this document eliminates duplication that had existed in training-methodological documentation and the noticeable lack of coordination in method and structure of working programs developed by various VUZes. This kind of working program can be viewed as a basis for establishing training-methodological facilities by discipline and specialty. Such facilities have recently become more widespread in VUZes.

The study of current requirements on the quality of training of specialists led to the necessity for a gradual transformation of traditional training and to a certain extent, a new type of training. The basis of this training includes methods of actively attracting students into the cognitive process (problem solving training, applicable games, research training, etc.), which stimulates independent thinking of students, produces the proper conditions for their creativity, facilitates the overall personality development of future specialists and the formulation of their theoretical and practical knowledge.

At the same time it must be admitted that criticism of the NIIVSh for its slow development of modern psychology and pedagogy of higher education is justified. As a result of research conducted by the NII and VUZ scholars on problems of higher education, a great deal of theoretical and practical material has been accumulated, which should now be used to work out a general concept of training and education in the VUZ, and to develop a system of psychological and pedagogical principles and rules.

Communist education of students has an exceptionally important place in the activities of higher schools. The institute is studying a wide range of problems in this area. At the present time we can say that an organizational and methodological basis has been developed for VUZes to conduct work in the communist education of future specialists: A comprehensive model plan for communist education of students for their entire training period, recommendations that facilitate observing the principle of unity and continuity in teaching social sciences, and a model regulation on the socio-political practice of students who had received a positive evaluation at the 1981 All-Union Conference of Heads of Social Science Departments of Higher Educational Institutions that took place in the Kremlin.

The teaching of social disciplines is an important way in forming the ideological conviction of students. The problem of the level of instruction of social disciplines in VUZes was presented at the June (1983) Plenum of the CPSU Central Committee in an especially pointed manner. Students must be able to use Marxist-Leninist theory as a creative method for knowledge of social reality and their own professional activities.

In this regard, there is an increasingly special need for congruity between the university training of instructors in socio-economic disciplines and modern requirements due to developments in technology and production, and science and culture. On the basis of studying and synthesizing the experience of history, philosophy, and economics departments of this country's leading universities, the institute has developed recommendations

that will facilitate the improvement in training social science teachers; a model regulation on the pedagogical practice of students of the above-named university departments; as well as programs of courses on the methodology of teaching scientific communism, Marxist-Leninist philosophy, political economics and the history of the CPSU.

Resolving the problem of raising the quality of specialist training is tied not only to the level of teaching in VUZes. Success in this matter also depends heavily on the effectiveness of the joint work of teachers and students. Right now it is impossible to assure high quality specialist training without increasing the cognitive activity of the students themselves.

The activation of training presupposes a unity of the training process and students' scientific-research work. Training through research is one of the principal methods for forming a creative personality. The dissemination of experience in organizing NIRS [students' scientific research work] in leading VUZes, the analysis of the evolution and the determination of the tendencies and perspectives regarding the development of ways to attract students to research, served as a basis for developing recommendations that will facilitate the improvement and further development of NIRS. The institute has worked out principles and methodology for future planning of the NIRS for the entire training period, as well as a "Standard Model of a Comprehensive Plan for the Organization of NIRS for the Entire Period of Training in the VUZ." This plan is now being implemented in practically every VUZ in the country. Methodological recommendations are ready for implementing the most important organizational configuration forms of NIRS in the training process.

The development of higher education is characterized by a constant growth in the material and technical equipment for the training process. Ever more widely used is various equipment that assists in making possible new and more effective training methods and that creates proper conditions for automating the basic technological operations of the VUZ -- the training process. At the same time, an important trend in the development of TSO [technical training aids] is the creation of automated teaching systems, based on modern computers that provide individualized instruction for a mass audience.

The work of 27 VUZes in establishing a comprehensive program of the USSR GKNT [State Committee for Science and Technology] to create and implement computer-based automated training systems has been unified under the management of the NIIVSh. Our institute has become the lead organization in the USSR for establishing and implementing automated teaching systems. At present, a series of standard packages of applied programs has been developed for the AOS [automated teaching systems] (SPOK-VUZ, AOS-VUZ) and are going through operational testing in many VUZes. It is already becoming evident that the creation of automated training systems is the future trend for introducing computers into the educational process.

It is important to note that in the course of using computers in the educational process, they function not only as a means of training, but also

as the object of study. Mastering a given study course with the aid of a computer, a student simultaneously masters the skills of working with electronic-computational technology that is playing an ever larger role in all areas of production. As noted in the speech of the General Secretary of the CPSU Central Committee, comrade Yu.V. Andropov, at the June (1983) Plenum of the CPSU Central Committee: "It is necessary to master automated production, to provide a broad application of computers and robots, and to introduce flexible technology that would allow a quick and efficient shift of production for the manufacture of new products." In connection with this, there is a growing need to train specialists of different profiles who would know how to apply computer technology to various problems. The VUZes of our country at present have a significant supply of computers that are used both in the educational process and in scientific research being conducted by the VUZes. Taking into consideration the great urgency for knowing how to use computer technology, and especially microprocessor technology in higher schools, the institute has developed an integrated program, "Broadening and Increasing the Effectiveness of Computer Utilization in the Educational Process and in Scientific Research." A variety of important research has already been conducted within the parameters of this program. In particular, on the basis of an analysis regarding the development of the capabilities of computer technology produced by our industry, the trends for changing the technical equipment of VUZes were examined. A methodology was created through which the needs of VUZes for CTV [computer technology resources] could be determined, including microprocessor technology. Computer calculations evaluated the needs of higher schools to the year 2000; basic directions were determined for improving the system of training students and instructors in using computers; and recommendations were made to include in standard educational plans issues on training specialists of all profiles with regard to computer technology and programming.

The problems of planning and forecasting the training of specialists are of great importance to the national economy. The scientific principles of planning their training were established already during the years of the first five-year plans. Research in this area in recent years has contributed to a significant improvement in the planning mechanism for training specialists.

From a methodological standpoint, the central and at the same time most complex part of planning the training of specialists is the determination of a planned utilization of these specialists by the different branches of the national economy.

The NII for Problems of Higher Schools has devised a whole series of standard methodologies and methodological instructions that regulate and determine the utilization and training of specialists for different branches of the national economy. Based on methodological principles of planning and forecasting specialist training developed by leading Soviet economists, the institute has established the "Unified Requirements for Developing Departmental (or Branch) Methodological Instructions for Determining Specialist Needs and Methodological Instructions on Developing Norms of Specialist Overproduction in Various Branches of the National Economy."

Standard methodologies have been devised, under NIIVSh management, for machine-building and construction branches of the national economy, as well as for a number of republic ministries. A complex structure of algorithms and programs has been created, with the aid of which we are preparing proposals for the "Comprehensive Program of Development of Higher and Middle Special Education in the USSR to the Year 2000." The main emphasis in research in the area of economics of higher education is in developing and establishing a standard basis for a scientifically based correlation between students and instructors, expenditures for training specialists, etc.

Among the basic directions for research is the improvement in managing the system of higher and secondary specialized education. The institute is preparing recommendations for a general management plan for the branch. A great deal of attention is being paid to ASU VSh [Automated Control System for Higher Schools]. The key problem here is to determine the principles for formalizing and unifying procedures for information processing and establishing methods for building information banks that would be fully responsive to well-formulated management decisions. A large number of projects in the area of creating automated control systems has been completed jointly with leading organizations of MinVUZes of union republics. As a result of completed research and the dissemination of VUZ experience, the "Mars" automated system for data processing (ASOD) has been completed and put into operation. At present, the third version of ASOD "Mars", orientated towards work in a dialog mode, has been developed and is being implemented.

A number of standard projects of functional ASU-VUZ subsystems has been developed: "Abituriyent," "Instructor Cadres," "Staff Member Cadres," "Session," and "Student Contingent," all of which have been widely disseminated in VUZes. A number of functional OASU subsystems of the USSR and union republic MinVUZes has been developed and introduced in experimental and, in part, in industrial operations.

The study and dissemination of the experience of higher schools abroad is one of the important directions in the activities of the NII VSh. Analysis of foreign experience, both positive and negative, permits our system of education to be improved and its effectiveness increased with a minimum of material expenditures.

Research results are published in journals and other NII VSh information publications that are disseminated by subscription to practically every VUZ in the country. These publications discuss general trends in the development of higher schools, organizational principles in training specialists, organizational-managerial aspects of NII in VUZes, problems of raising qualification standards for specialists, trends in training engineering and technical cadres, principles and methods of comparative analysis of educational systems, problems of USSR cooperation with developing countries in the area of training cadres and with socialist countries on problems of higher education within the framework of the conference of ministers of higher education of socialist countries.

It should be noted that the ideological-theoretical and methodological level of a number of publications of the NII for Problems of Higher Schools do not

yet satisfy the requirements that have been delineated. The quality of published works must be raised. With regard to this, great assistance to the institute should be given by editorial councils that are regular and active advisory organs at the NII for Problems of Higher Schools.

It is impossible to list all the work that has been done by the institute in the ten years of its existence. In this article we discussed only the most significant work. At the same time it should be remembered that problems now facing the higher schools cannot be resolved only by the NII VSh. The path toward resolving these problems lies in greater cooperation between the NII VSh and the VUZes. As experience has shown, the best results have come about when there was integrated activity between the NII VSh scientists and VUZ scientific collectives. At the beginning when the VUZes were just getting used to NII VSh activities, they were not always seeking close scientific contacts. Cooperation has now become traditional between the NII VSh and VUZ-collaborators in such work as the project on a single research program and on agreements for creative cooperation; on conducting joint experiments; on introducing the results of NII VSh research into the practical work of VUZes; and on joint analysis and summarization of what has been implemented.

The NII VSh sees as its main problem the improvement of cooperation with VUZes and managerial organs of higher schools. We are striving to develop the forms of cooperation that have already been established and to strengthen new forms of communication. Thus the institute, together with key VUZes, is establishing a project for creating a standard educational curriculum of individual departments of general engineering and general science that will combine the theoretical work of our institute and the advanced work of the VUZes. There is a task to be accomplished: To create a system of educational-methodological documentation; to systematize its contents; to determine the role of technical training methods in teaching; to create all the necessary aids and equipment lists for supporting the educational process; and to introduce progressive forms and methods of education. Such cooperation provides a realistic outlet for theoretical research in higher education by its application to the practical activities of VUZes. This cooperation raises the effectiveness of research and allows as much as possible a comprehensive approach to resolving the problem of raising the training quality of specialists.

The institute collective will do everything possible, in the course of implementing the decisions of the 26th CPSU Congress and the resolutions of the party and government on higher schools, to eliminate existing shortcomings and to assure the fulfillment of its tasks.

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EDUCATION

EDUCATION MINISTER ANSWERS IZVESTIYA'S READERS

Moscow IZVESTIYA in Russian 4 May 83 p 2

[USSR Minister of Education M.A. Prokof'yev answers readers' questions]

[Text] Every person, whatever he is today--worker or kolkhoznik, engineer or geologist, physician or builder--was once a schoolboy. Today it is his children, grandchildren or even great-grandchildren who go to school. It is therefore understandable why popular education and communist instruction always interest our readers. We asked USSR Minister of education M.A. Prokof'yev to answer some of our readers' questions.

[Question] Many letters ask the same question--how were school programs and textbooks improved in keeping with the tasks set before education by the 26th congress of the CPSU?

[Answer] The basic document which determines the content of school subjects today is the "Unified level of general secondary education". It was worked out after a critical review of established practice and the shortcomings thereof in methodological documentation and the knowledge and skills imparted to the students. Its provisions are mandatory for all schools which provide a full secondary education. Here are its initial demands: secondary education must equip students with a firmly-rooted knowledge of the fundamentals of each science, teach them to comprehend the principles of our communist world outlook, provide vocational and polytechnical training, moral and esthetic instruction and physical education.

In keeping with the Unified level amendments were made in school programs currently in force. Concepts not crucial to the development of the student were dropped, the demands put on his knowledge and skills were formulated, special attention was devoted to interdisciplinary linkage. The new guidelines are now being implemented in practice.

The next phase is the creation of textbooks where these ideas are to be most fully reflected. This is being done now by large groups of scientists, methodologists and teachers. The geometry textbook soon to be introduced, for example, was written by academician A.V. Pogorelov. Nearing completion are new textbooks on the history of the USSR. The physics, biology and some other textbooks have been improved. Much, though, remains to be done.

The creator of the lesson is the teacher. That is why special attention is being focused in all our methodological work on absorbing the experience of the best pedagogues. This will permit every teacher to develop his own style where the subject in question and the art of teaching it are interconnected to the best possible degree.

[Question] "Work must be made the yardstick of a person's social prestige", writes labor veteran S. Mikheyev in a letter to the paper. "I know that new programs have been introduced in labor education, but what I am concerned about is how effective are they? Because in my opinion the only work that educates is productive work." In connection with the above letter, this question: what new developments are there in labor instruction and education in the schools and to what degree is labor instruction linked to professional orientation?

[Answer] Comrade Mikheyev is right, only productive, socially useful labor educates. Let me point out, though, that this kind of labor calls for certain training and instruction.

In recent years there has been a significant increase in the number of training shops at enterprises and vocational training and production combines. At present their enrollment is about 4.8 million senior pupils. Last school year 1.7 million school graduates out of a total of 2.5 million passed their professional qualifications exams. Tractors and agrotechnics, automotive vehicles, production-line professions, housing and public utilities, consumer services--these are the fields which secondary-school graduates themselves selected and were trained to work in.

Active in the rural areas are some 50 thousand field-crop and mechanization teams which unite the majority of junior and senior class pupils. These teams work in the fields and farms of kolkhozes and sovkhozes adhering to a definite schedule. During the summer holidays they are joined by city schoolchildren.

The schools are continuing their efforts to improve labor instruction to meet the needs of the national economy.

[Question] I read with interest in 'Izvestiya' about lessons in moral education which are conducted in Georgia. It seems to me that such lessons are indispensable everywhere", writes librarian I. Dementiy from Minsk. How is the experience garnered in Belorussia, Georgia and Armenia in the area of moral education being passed on, what efforts are being undertaken to this end?

[Answer] The moral education of our youth is determined by the entire order of school life, including first and foremost the activities of the Pioneer, Komsomol and other public organizations. The groundwork of morality is laid in the classroom. Such disciplines, for example, as history, social science, basic principles of state and law spell out the demands society places on the morals of the young generation. The literature course is directed at nurturing ideological conviction, honesty and diligence. Music, drawing and participation in socially useful labor are all aimed at imparting high moral qualities.

We also attach considerable importance to extracurricular work. The recently adopted "Recommended content of educational work in school" helps the teacher

organize it more efficiently depending on the pupils' age: talks on ethics with first to seventh graders, an optional course--"Basis of communist morality"--in the eighth grade. In some republics this course is mandatory. It covers an extremely wide range of topics: relation to the Soviet motherland and loyalty to communist ideals; relation to labor, working people and national property; collectivism, comradeship and friendship; kindness, responsiveness, modesty and evenhandedness; honesty and the ability to keep one's word; conscious discipline and exemplary behavior; the active outlook on life of the Soviet person, his irreconcilable relation to wrongdoing and indifference. The necessary teaching aids for these topics have been published.

[Question] Much is being said and written these days about starting school at the age of six. How do schools and kindergartens cooperate on this, what is the optimal curriculum and what are the results of the ongoing experiment? This is a personal question--my daughter was born in April, she is a bright and healthy girl but will turn only six and a half in September and I hear she will not be admitted to school", writes D. Kuznetsova from Moscow. What can you reply to all her questions?

[Answer] The teaching of six-year olds in preparatory classes is now fairly widespread, involving about a million children. Schooling from this age is being conducted as an experiment in preparatory classes in school and in senior kindergarten groups on a five-day week basis. A primer and several other textbooks have been produced. The curriculum is geared to their age, physique and regimen which is somewhat similar to the regimen of a kindergarten. The initial results of the experiment demonstrate that the children absorb the material well and with proper organization do not tire.

As for D. Kuznetsova's daughter, the best thing to do is to enroll her in a preparatory class. For the time being, though, not every school has one. The USSR Ministry of Education has given local educational organs permission to admit children under seven to first grade provided a pediatrician certifies that there are no contraindications to schooling and that the child turns seven in the current calendar year.

[Question] "School education, as we know, is gradually making a transition to free textbooks for all. Sounds good, but it really isn't. One needs many of the books for more than a year, especially to go over past lessons or study up an inadequately mastered section of this or that course", writes N. Vakar from Armavir, mother of a fourth-grade schoolgirl. "Where can secondary-school graduates get the textbooks they need to prepare for an institution of higher education?" inquires S. Kul'kov from Irkutsk.

[Answer] As for school graduates and those pupils who need books for repetition, they can always get them from their school libraries. At the present time school libraries have amassed 500 million textbooks. These libraries' transition to a free-use system is in its final stages. Fortunately, our fears that the textbooks would not last four years (the due time frame for a full reprint) did not materialize. The inevitable loss of books caused by a variety of reasons is made up for by partial reprints.

At the same time, editions of methodological literature for teachers have grown in size--didactic materials, lesson drafts, etc. The "Prosvetshcheniye" publishing house issues works of fiction in millions of copies (as is the case with textbooks) in the "School library" series. Among those already published are "War and Peace", "What is to be Done?", "Crime and Punishment" and "Virgin Soil Upturned".

[Question] "I read the article "The young family" about a trial course for senior class pupils aimed at preparing them for family life and wish to know whether anything is being done to evaluate the course and give it final approval. Because this is a much-needed yet very difficult undertaking", writes agronomist I. Bel'tsova who has a daughter aged 16.

[Answer] We have worked out an experimental version of a standard course for ninth-tenth graders--"The ethics and psychology of family life". A 34-hour course--17 lessons each in the ninth and tenth grades--, it examines such problems as man's interrelationship with society, the labor collective and the family, looks into the moral basis of relations between young people of opposite sexes and focuses on the basic values of the family, laying special emphasis on the role of the family in bringing up children.

The necessary teaching and methodological aids have been compiled too. It is on the basis of these materials that since January 1982 over seven thousand ninth-graders are being taught the course in two hundred experimental schools.

A textbook on the new subject is being prepared. We plan to have it taught in all the secondary schools of the country beginning with the 1984/85 school year.

[Question] "In a leading article entitled "Rural schools need care and attention" the paper said it was imperative to enhance the teacher's prestige, to provide him with everything necessary for productive work. Much is being done in this respect, especially in the rural areas. Nevertheless, teachers do not stay long in the schools, each year new ones appear. And they could do a better job of teaching the children", writes V. Kostenko from Vinnitsa oblast. What is being done to improve the quality of teacher training and to induce teachers to stay on in the rural areas and, for that matter, in the cities too?

[Answer] The curriculums of teacher-training institutes and schools have been reworked to fully comply with the new school programs. They are to be introduced in the 1983/84 academic year. Also being prepared is the necessary methodological literature.

There has been a considerable improvement in recent years in the teaching of psychological and pedagogical disciplines. The course "Methods of educational work in schools" has been made mandatory, a number of specialties have had introduced into their curriculums "Professional orientation of schoolchildren" and "Educational work in vocational training schools". The special psycho-pedagogical courses have broadened their thematic scope with "Theory and methodology of lecture-reading", "The class teacher's work methods", "Pedagogical skill", "Education of schoolchildren on the example of the life and work of V.I. Lenin", "The psychological and pedagogical aspects of pupils' production

teams", "The economic education of schoolchildren". All this will help improve the students' professional and pedagogical know-how.

Special consideration is given to preparing the future teacher for work in a rural school. One of the measures introduced is the admittance on a non-competitive basis of young people who hail from the very regions they will be working in. Providing training geared to pedagogical institute requirements obligates schools and educational organs to select candidates for student positions with the utmost care and the institutes themselves to so organize the study process as to sustain the students' links with their rayon, for example, assigning them to on-the-job practice in schools located in their native parts, having them participate in pedagogical conferences, etc. I believe the time has come for a gradual transition to a system of making teachers "on order" out of candidates sent down by the "client" himself.

And, of course, for the teacher to hold on to his job in the rural school he is assigned to he must be given respect and consideration and provided with normal housing. Past experience shows that wherever local soviets really care the problem of retaining cadres does not arise.

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